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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/261,537	06/17/94	STEINMAN	R 20164000US3

EXAMINER	
LANKFORD JR.	
ART UNIT	PAPER NUMBER
1651	#22

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

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Office Action Summary	Application No. 08/261,537	Applicant(s) Steinman et al
	Examiner L. Blaine Lankford	Group Art Unit 1651

☒ Responsive to communication(s) filed on *Aug 4, 1998* .

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *3* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) *1-23* is/are pending in the application.

Of the above, claim(s) *14-21* is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *1-13, 22, and 23* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐approved ☐disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____ .

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____ .

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

Acknowledgement is made of the receipt and entry of the amendment filed under rule 1.129(a) on 8-4-98.

Applicant's arguments have been fully considered but they are not persuasive. Applicant seems to contend that the Markowicz reference does not teach that dendritic precursors when exposed to GM-CSF will proliferate into dendritic cells, the examiner still disagrees.

Applicant's arguments have been considered however a showing to overcome a prima facie case of obviousness must be clear and convincing(In re Lohr et al. 137 USPQ 548) as well as commensurate in scope with the claimed subject matter (In re Lindner 173 USPQ 356; In re Hyson, 172 USPQ 399 and In re Boesch et al., 205 USPQ 215 (CCPA 1980). Applicant states that Markowicz does not teach the proliferation of dendritic cells, but this is not what applicant claims. Applicant claims the production of mature dendritic cells from a composition containing dendritic cell precursors and that appears to be disclosed by Markowicz. Applicant would need to demonstrate how the claimed invention is different. Is the amount of GM-CSF different? Is the starting material different? It would appear that applicant's invention allows for a larger dendritic cell population then is taught by Markowicz, but this is not claimed. Applicant should elaborate further on the actual differences between the use of GM-CSF in Markowicz and the use of the factor in the instant application. Perhaps a clarification of the types of cells upon which the GM-CSF acts is necessary. It would appear that the applicant and examiner may be arguing over semantics and clarification is necessary. The examiner could not access the allowed file- to

bolster their arguments, applicant could include a copy of the allowed claims and the rationale used by applicant to obviate the Markowicz reference in the allowed case.

The claims remain rejected for the reasons of record.

The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
>
> Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. § 103, the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 C.F.R. § 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of potential 35 U.S.C. § 102(f) or (g) prior art under 35 U.S.C. § 103.

Claims 1-6, 8-12 & 22 are rejected under 35 U.S.C. § 103 as being unpatentable over Markowicz et al in view of Jakoby et al.

Markowicz et al., relied upon for the reasons discussed previously. Markowicz et al. differs from the claimed invention by not specifically indicating the exact concentration level of IL-4 utilized and also by teaching the utilization of a slightly less concentration level of GM-CSF from that which is specifically claimed. However, it is well known in the art to adjust the concentration level of culture medium additives in order to optimize the experimental conditions for the particular cell type being cultured. Jakoby et al., on pages 75-77, teach that it is well known in the art of cell culture to "tailor media" in order to optimize the experimental conditions. Each culture system requires examination of the particular conditions that are best for the type of cell being studied by the investigator. Furthermore, each component of the system, identified as result-effective variables, has its well recognized advantages for the purpose of optimizing the experimental conditions. This type of optimizing experimental conditions is well within the purview of the skilled artisan and is deemed a matter of routine experimentation.

Accordingly, the claimed invention would have been *prima facie* obvious to one of ordinary skill in the art at the time the claimed invention was made, especially in the absence of sufficient, clear and convincing evidence to the contrary.

Claims 7 and 13 are rejected under 35 U.S.C. § 103 as being unpatentable over Markowicz et al in view of Jakoby. as applied to claims 1-6 and 8-12 above, and further in view of Koch et al.

Markowicz et al. differs from claim 7 by not specifically teaching that the culture medium may further comprise TNF-alpha.

Koch et al teach that new insight into the biology of dendritic cells (DC) came from studies of murine epidermal Langerhans cells (LC) *in vitro*. Koch et al. indicate that such studies have suggested that LC in the skin and DC in other non-lymphoid tissues represent precursors or immature elements of the dendritic cell system. Koch et al. teaches that the addition of TNF-alpha to murine epidermal Langerhans cells in culture allows such cells to maintain their viability. Therefore, in view of the teachings of Koch et al., one of ordinary skill in the art would have a reasonable expectation of success in maintaining viability of dendritic cells when TNF-alpha is added to a dendritic cell culture. Accordingly, one of ordinary skill in the art would have had a reasonable expectation of success in adding TNF-alpha to the dendritic cell culture of Markowicz et al.

Claims 8-9 and 22-23 are rejected under 35 U.S.C. § 103 as being unpatentable over Markowicz et al. In view of Jakoby as applied to claims 1-6 and 8-12 above, and further in view of Voorhis et al or Ruley et al.

Markowicz et al. differs from claims 8-9 and 23 by adding 10% heat-inactivated human serum as opposed to 1-15% fetal calf serum or 5% cord blood serum. However, Voorhis et al teach that human dendritic cells may be cultured in 5-10% fetal calf serum. Furthermore, it is well known in the animal cell culture field to utilize cord blood serum in animal cell cultures. *See, e.g.,* Ruley et al., U.S.Patent No. 5,364,783, column 22, lines 21-27. Therefore it is deemed merely a matter of judicious selection on the part of the skilled artisan to utilize fetal calf serum or cord blood serum as opposed to human serum. Additionally, it is well known in the art to utilize anywhere from 1-20% of serum in animal cell cultures. Utilization of a particular concentration within that range is deemed merely a matter of routine optimization which is well within the purview of the skilled artisan.

Accordingly, the claimed invention would have been *prima facie* obvious to one of ordinary skill in the art at the time the claimed invention was made, especially in the absence of sufficient, clear and convincing evidence to the contrary.

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blaine Lankford whose telephone number is (703) 308-2455.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Withyshyn, can be reached on (703) 308-4743. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-4242.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

August 20, 1998

L. Blaine Lankford
Primary Examiner
Art Unit 1651